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10/822,441	04/12/2004	Shigeru Nojima	5576-159	1431
20792	7590	09/07/2007		
MYERS BIGEL SIBLEY & SAJOVEC			EXAMINER	
PO BOX 37428			NGUYEN, CAM N	
RALEIGH, NC 27627			ART UNIT	PAPER NUMBER
			1754	
			MAIL DATE	DELIVERY MODE
			09/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/822,441

Applicant(s)

NOJIMA ET AL.

Examiner

Cam N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/25/07 (an amendment/response).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 17, 18, 20-23 and 29-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 18, 20-23 and 29-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**Response to Amendment**

1. Applicants' amendment and remarks, filed June 25, 2007, has been made of record and entered. Claims 1-16, 19, & 24-28 have been canceled. Claims 17-18, 20-23, & 29-31 have been amended.

Claims 17-18, 20-23, & 29-31 are currently pending.

**Claim Rejections - 35 USC § 102(b)**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Pfeifer et al., "hereinafter referred to as Pfeifer '920", (PG-Pub No. US 2002/0116920 US).

Pfeifer '920 discloses an exhaust gas treatment unit, said exhaust gas treatment unit comprises: (a) a first catalyst unit, wherein said first catalyst unit comprises a three-way catalyst; (b) a second catalyst unit, wherein said second catalyst unit is located downstream of the first catalyst unit and comprises an SCR-catalyst; and (c) a third catalyst unit, wherein said third catalyst unit is located downstream of said first catalyst unit and upstream of said second catalyst unit, and said third catalyst unit is capable of oxidizing nitrogen oxides present in the exhaust gas at lean exhaust gas conditions so that from 25 to 75 vol.% of the nitrogen oxides

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entering the second catalyst unit are nitrogen oxides (see page 4, claim 1). The catalyst in the second catalyst unit can be catalyst based on solid acid systems  $V_2O_5/TiO_2$  or  $V_2O_5/WO_3/TiO_2$  or  $V_2O_5/MoO_3/TiO_2$  (see page 3, paragraph [0033]).

There is no patentable distinction seen between the claimed catalyst and that disclosed by Pfeifer '920. Thus, the claim is anticipated by the teaching of the reference.

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18, 20-23, & 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeifer et al., "hereinafter referred to as Pfeifer '920", (PG-Pub No. US 2002/0116920 US) taken together with Balling et al., "hereinafter Balling 545", (US Pat. 5,397,545).

Pfeifer '920 discloses an exhaust gas treatment unit, said exhaust gas treatment unit comprises: (a) a first catalyst unit, wherein said first catalyst unit comprises a three-way catalyst; (b) a second catalyst unit, wherein said second catalyst unit is located downstream of the first catalyst unit and comprises an SCR-catalyst; and (c) a third catalyst unit, wherein said third catalyst unit is located downstream of said first catalyst unit and upstream of said second catalyst unit, and said third catalyst unit is capable of oxidizing nitrogen oxides present in the exhaust gas at lean exhaust gas conditions so that from 25 to 75 vol.% of the nitrogen oxides entering the second catalyst unit are nitrogen oxides (see page 4, claim 1). The catalyst in the

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second catalyst unit can be catalyst based on solid acid systems  $V_2O_5/TiO_2$  or  $V_2O_5/WO_3/TiO_2$  or  $V_2O_5/MoO_3/TiO_2$  (see page 3, paragraph [0033]).

Pfeifer '920 does not disclose the first catalyst (or upstream catalyst) contain copper oxide and/or chromium oxide.

However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have incorporated such known catalyst containing copper oxide and/or chromium oxide into the catalyst of Pfeifer '920 in order to achieve an improved catalytic converter having the accelerating capability as taught by Balling (see Balling '545 at col. 8, claim 7).

Regarding claims 23 & 29-31, it is considered the claimed limitation on "greater than or equal to  $\frac{1}{4}$  and less than  $\frac{4}{4}$  of an upstream catalyst..." is inherently met by teaching of the reference in view of the same first catalyst and second catalyst disclosed and being claimed.

#### **Response to Applicants' Arguments**

6. Applicants' amendment and response filed on filed June 25, 2007 has been fully considered, but not deemed persuasive for the following reasons.

Applicants' urgings regarding the Pfeifer et al. reference and Balling et al. reference have been noted. However, they are not found persuasive because the arguments are to the "intended use" of the catalyst and not the catalytic structure of the catalyst being claimed. It is considered the Pfeifer et al. reference and Balling et al. reference are still applicable prior art because Pfeifer et al. clearly teaches the claimed catalyst having the first catalyst and second catalyst as being required in the instant claim 17. With respect to claims 18, 20-23, & 29-31, Balling et al. is

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combined with the Pfeifer et al. reference for the teaching of the first catalyst element, which is a composite oxide of copper oxide and chromium oxide, which Pfeifer et al. does not disclose.

The reasons and motivation for combining the references together is previously provided in the rejection above. Further, there is a motivation to combine the teachings of the references together because they both teach catalysts for exhaust gas treatment. Thus, the rejections are maintained.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Conclusion**

8. Claims 17-18, 20-23, & 29-31 are pending. Claims 17-18, 20-23, & 29-31 are rejected. No claims are allowed.

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**Contacts**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

August 28, 2007

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